The invention claimed is:

1   1. A method of detecting and identifying a received signal, comprising the steps of:

2   segmenting the received signal into at least a first and a second segment, each having at

3 least two symbols;

4   correlating each of the symbols in the at least first and second segments with a

5 representative symbol to produce at least a first and a second set of symbol correlation outputs;

6   producing at least a first and a second set of signal identity outputs, the first set of signal

7 identity outputs indicating a degree of match between a first signal represented by the first set of

8 symbol correlation outputs and each of a plurality of expected signal identities, and the second set

9 of signal identity outputs indicating a degree of match between a second signal represented by the

10 second set of symbol correlation outputs and each of the plurality of expected signal identities;

11   providing frequency offset compensation to at least the first and second set of signal

12 identity outputs to produce at least a first and second set of frequency offset compensated signal

13 identity outputs;

14   summing corresponding signal identity outputs from the at least first and second sets of

15 frequency offset compensated signal identity outputs to form a plurality of summed signal

16 identity outputs; and

17   comparing at least one summed signal identity output to a threshold to detect and identify

18 the received signal.

1   2. The method of claim 1, further comprising the step of deinterleaving at least one of the

2 segments to form the at least two symbols.

1   3. The method of claim 1, wherein the representative symbol is the same for at least two

2 symbols.

1   4. The method of claim 1, wherein the threshold is the same for each summed signal

2 identity output.

1   5. A method of detecting and identifying a received signal, comprising the steps of:

2   segmenting the received signal into at least a first and a second segment, each having at

3 least two symbols;

4   correlating each of the symbols in the at least first and second segments with a

5   representative symbol to produce at least a first and a second set of symbol correlation outputs;

6   producing at least a first and a second set of signal identity outputs, the first set of signal

7   identity outputs indicating a degree of match between a first signal represented by the first set of

8   symbol correlation outputs and each of a plurality of expected signal identities, and the second set

9   of signal identity outputs indicating a degree of match between a second signal represented by the

10   second set of symbol correlation outputs and each of the plurality of expected signal identities;

11   providing a first frequency offset compensation to at least the first and second set of

12   signal identity outputs to produce at least a first and second set of first frequency offset

13   compensated signal identity outputs;

14   providing a second frequency offset compensation to at least the first and second set of

15   signal identity outputs to produce at least a first and second set of second frequency offset

16   compensated signal identity outputs;

17   summing corresponding signal identity outputs from the at least first and second sets of

18   first frequency offset compensated signal identity outputs to form a first plurality of summed

19   signal identity outputs;

20   summing corresponding signal identity outputs from the at least first and second sets of

21   second frequency offset compensated signal identity outputs to form a second plurality of

22   summed signal identity outputs;

23   comparing at least one summed signal identity output from the first and second plurality

24   of summed signal identity outputs to a threshold to produce a set of threshold exceeding signal

25   identity outputs; and

26   selecting at least one threshold exceeding signal identity output based on magnitude   to

27   detect and identify the received signal.